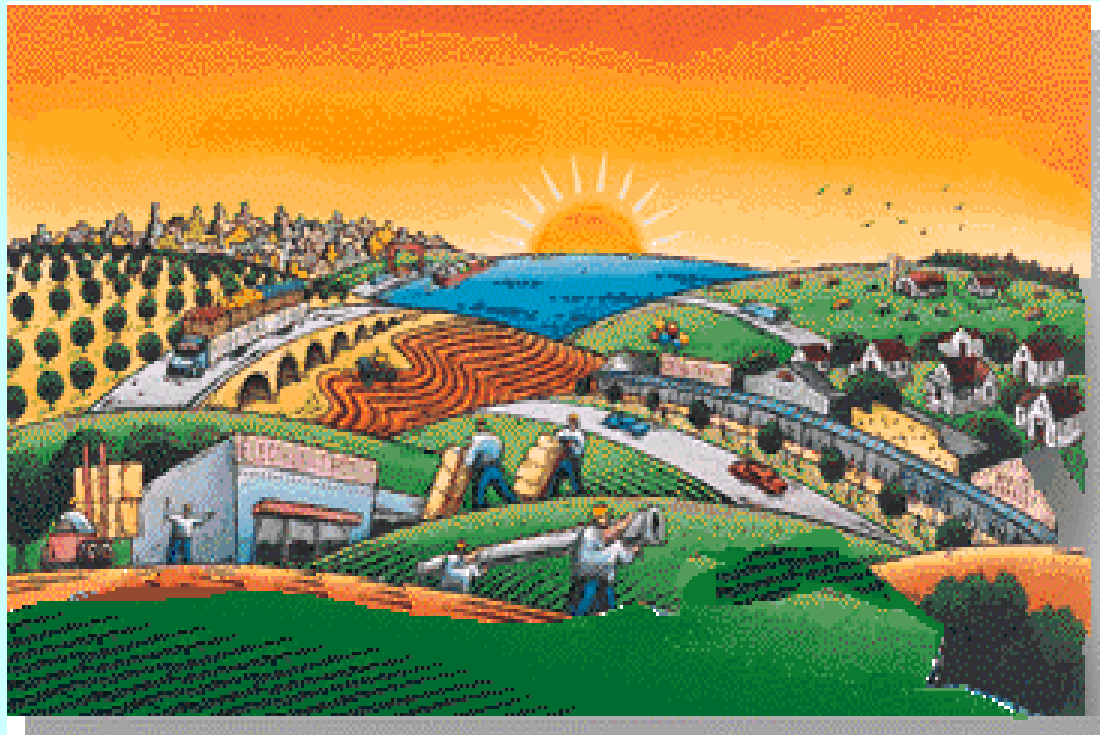


United States Department of Agriculture RURAL UTILITIES SERVICE



Serving Rural America for over 65 Years

Rural America Before Federal Programs

Labor intensive way of life



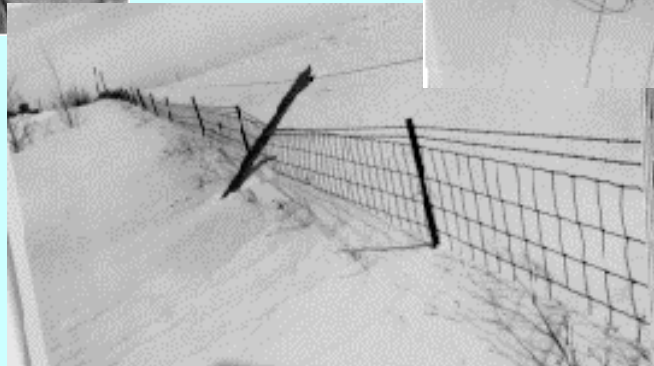
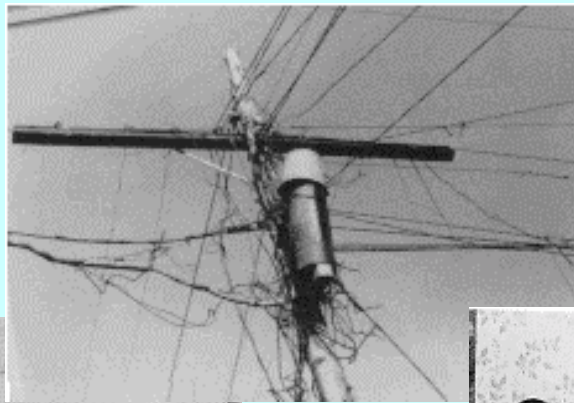
Rural America Before Federal Programs

Health and financial concerns were major issue



Rural America Before Federal Programs

Communications were unreliable or unavailable



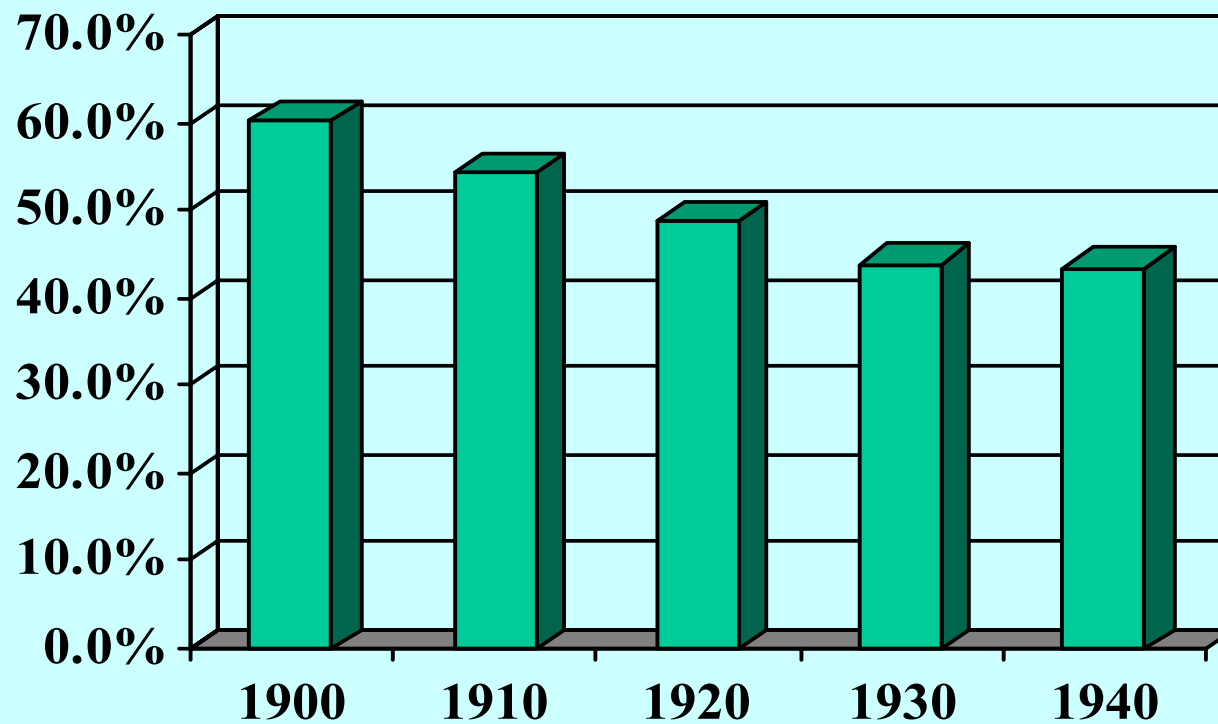
Rural America Before Federal Programs

Deteriorating quality of life led to outmigration



Rural America Before Federal Programs

Rural Population as % of U.S.



Rural America Before Federal Programs

Private utilities unwilling to serve rural areas

- No industry; no large loads for electric or telephone service
- Low return on investment due to low population density.



Rural America Before Federal Programs

Costs prohibitive to farmers

Cost of basic service often exceeded
farmer's annual income;

- Telephone mutual companies lacked capital and expertise;
- No sources to finance construction of new facilities.





Federal Government Develops A Partnership with Rural America

- **1935 - Rural Electrification Administration**
- **1937 - Water Facilities Act**
- **1949 - Rural Telephone Program**
- **1990 - Distance Learning/Telemedicine**
- **1994 - Department of Agriculture
Reorganization Act of 1994**



The “REA Pattern”

- Low interest funding;
- Area coverage;
- Cooperative principles -
“owned by those we serve”; and
- Standardized “rural” engineering

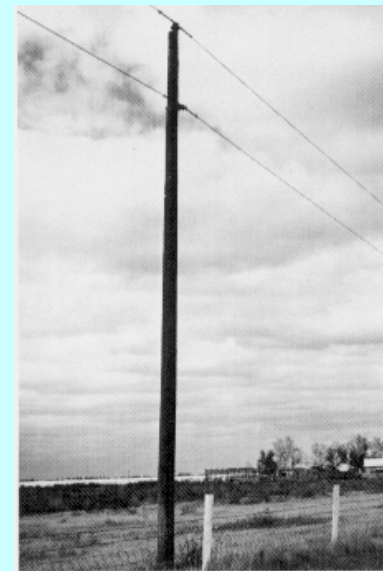




The “REA Pattern”

REA engineered construction practices:

- High strength conductors and lines;
- Pole improvements allowing longer spans;
- Emphasis on system-wide planning and assembly line construction techniques; and
- Standardized materials;



Results:

- **2/3 Construction cost reduction**
- **Quick repair capability**



The “REA Pattern”

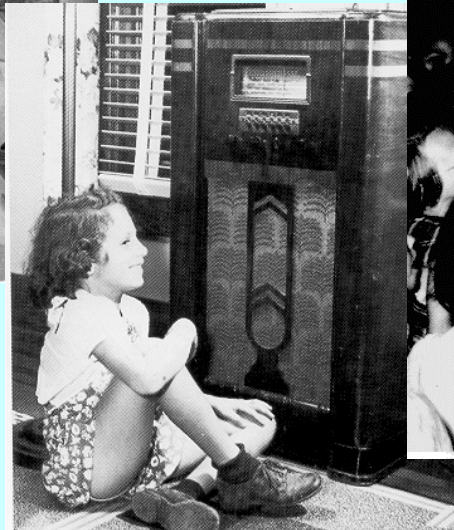
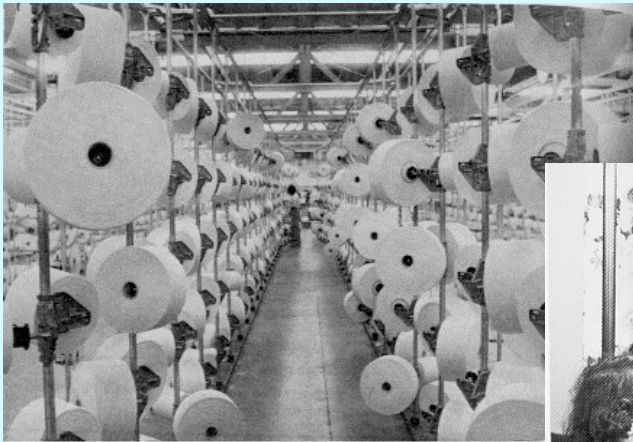
Community involvement





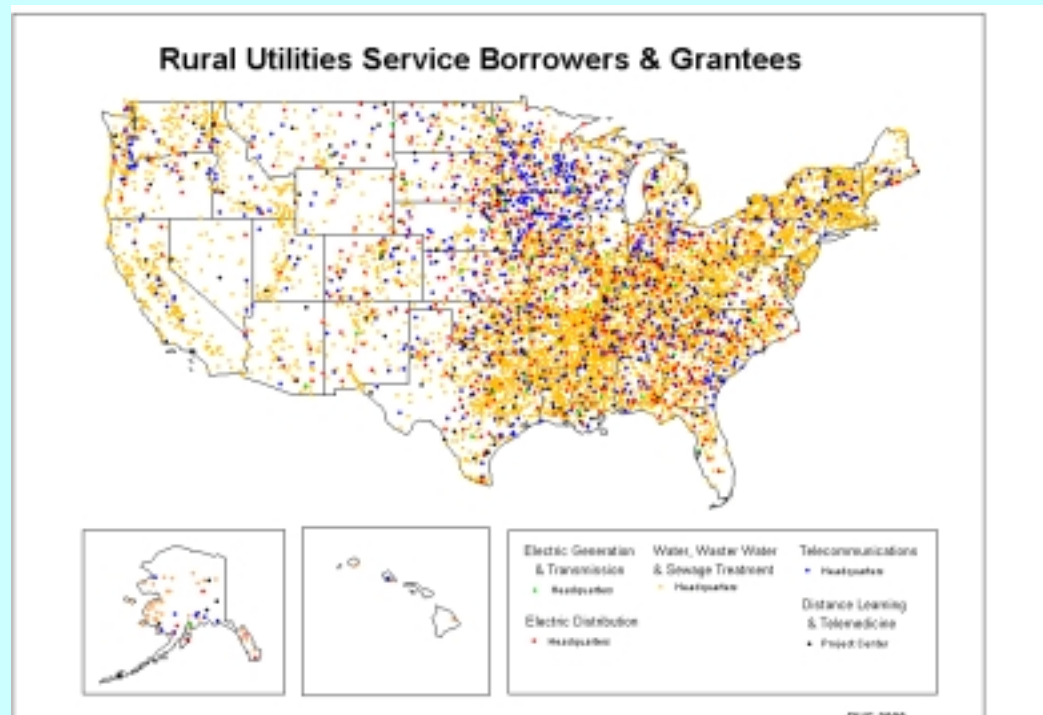
The “REA Pattern”

Economic development boomed and
educational opportunities improved





The Rural Utilities Service



Providing critical infrastructure to 80% of the nation's land mass.

Enhancing the lives of 25% of the population.



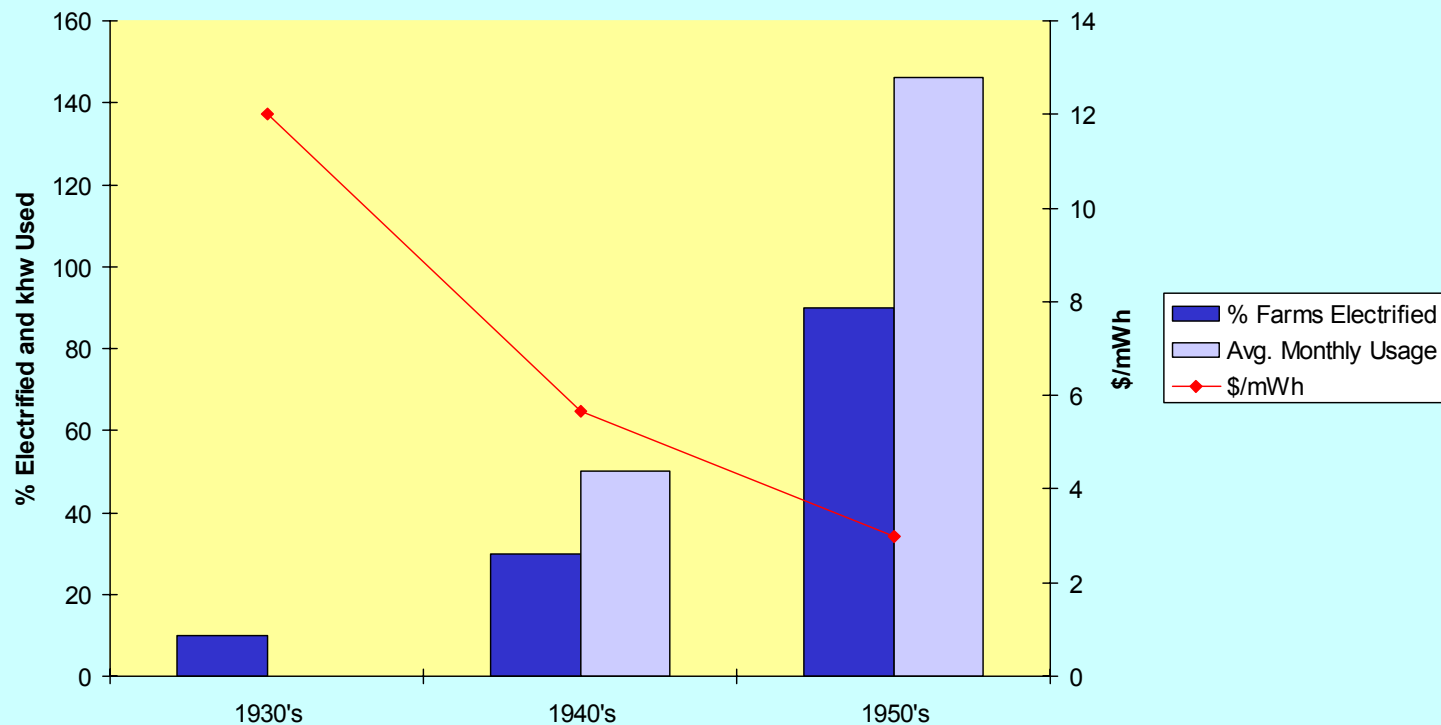
The RUS Electric Program





The RUS Electric Program

Rural electrification becomes a reality





The RUS Electric Program



Financing electric infrastructure in rural America



\$56 Billion in loans and guarantees
approved

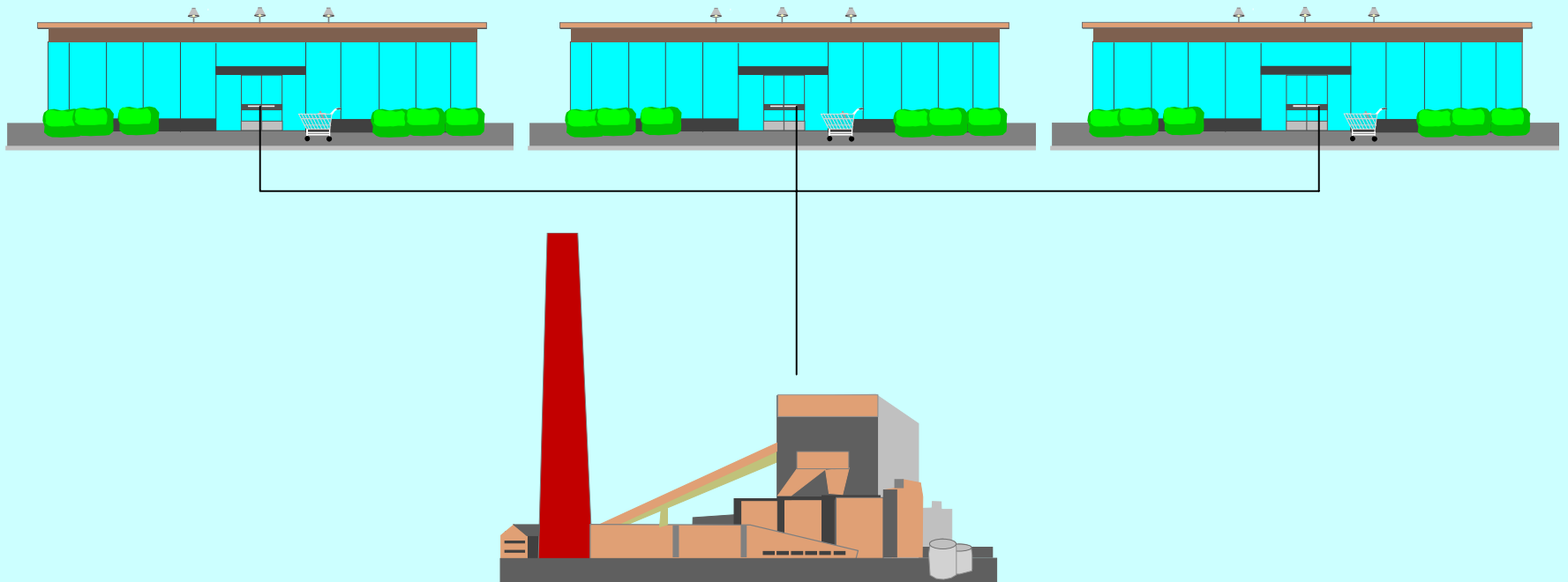


\$30 Billion in principal outstanding
Over 750 electric program borrowers



The RUS Electric Program

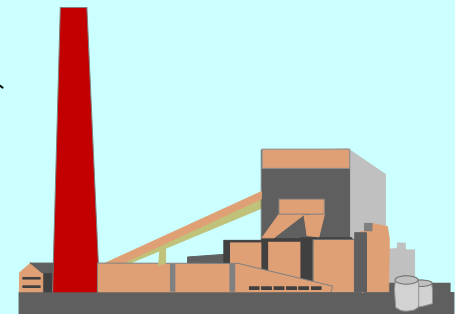
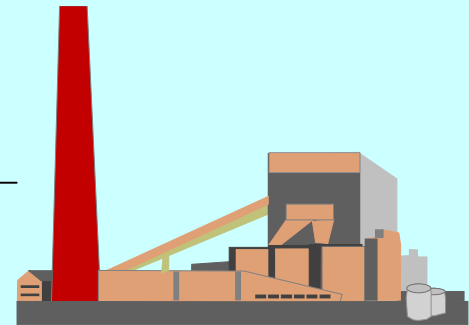
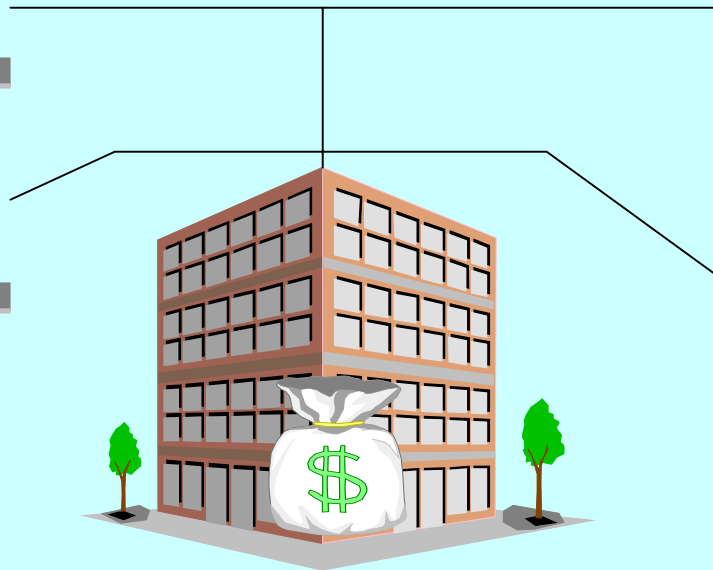
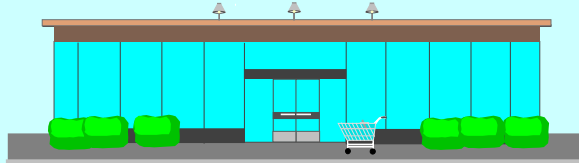
Co-ops unite to provide lower cost power supply





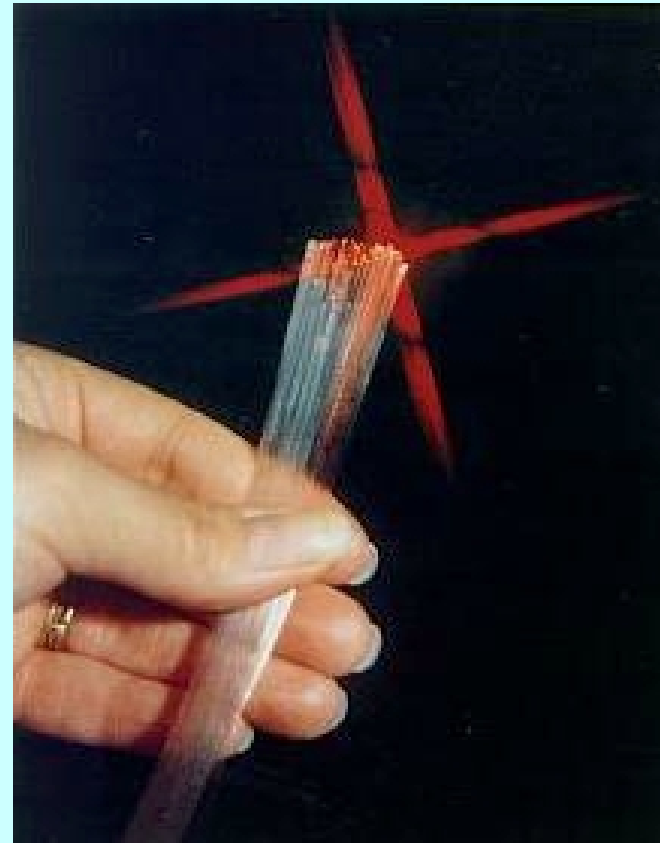
The RUS Electric Program

Co-ops unite to provide alternative source of capital





The RUS Telecommunications Program





The RUS Water and Environmental Programs





The Rural Utilities Service

Historical and on-going relevance

Top engineering impacts of the 20th century (source National Academy of Engineering):

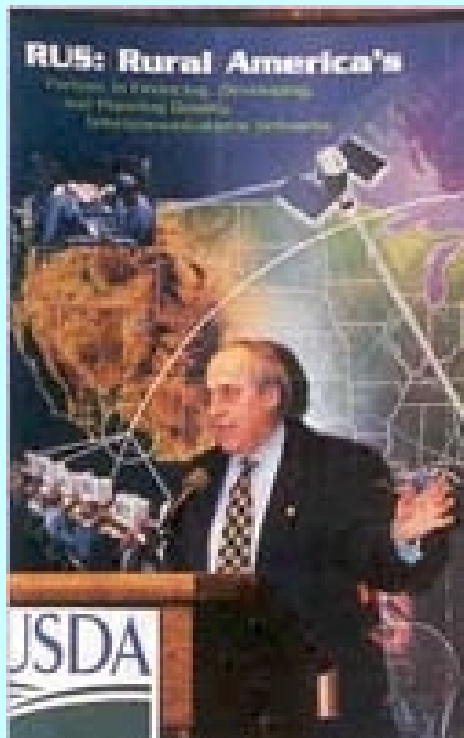


1. Electrification
4. Safe and abundant water
9. Telephone



The RUS Programs in 2000

Ongoing and emerging challenges:



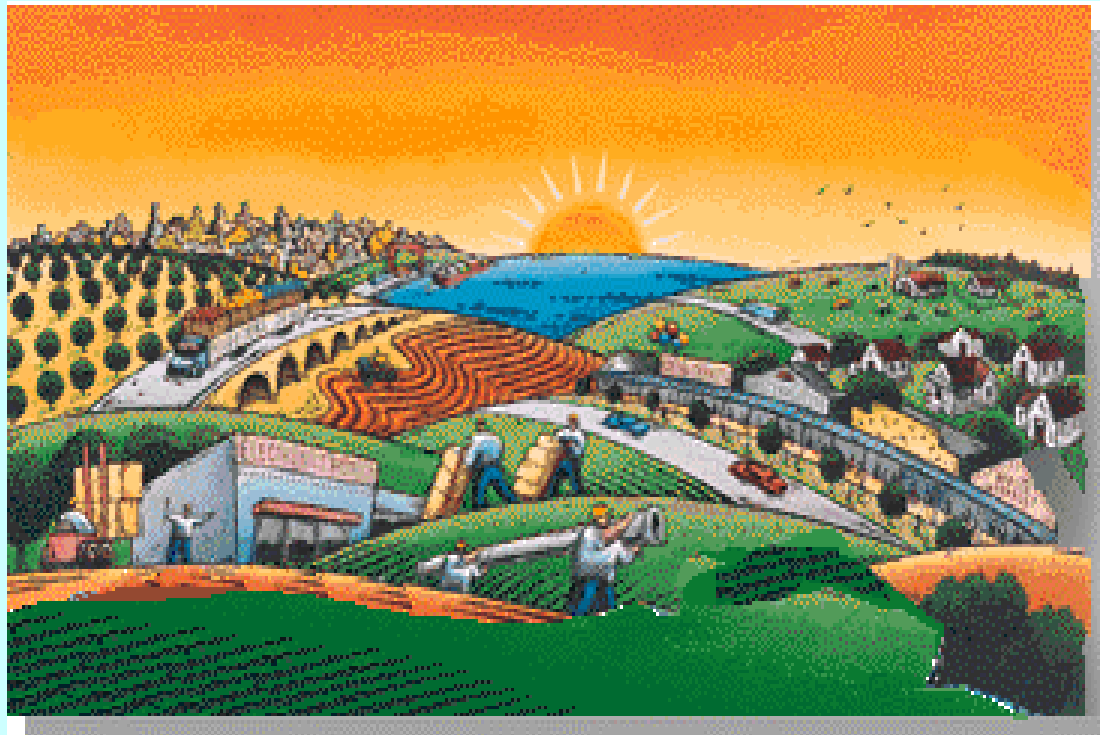
- > Rural demographics
- > Technological change
(fuel cells, mobile phone, satellite, and internet)
- > Competition
- > Regulation and deregulation



The Rural Utilities Service

- RUS succeeded in bringing high quality utility and communications infrastructure to rural America, thus stimulating rural economic development and quality of life
- Programs based on partnership between Federal government and local populations, using variety of organizational settings
- Almost completely a set of loan programs, with the major subsidy being assurance of the availability of financing
- The challenges continue...

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